



(19)

(11) Publication number: 0

Generated Document.

PATENT ABSTRACTS OF JAPAN

(21) Application number: 01006279

(51) Intl. Cl.: C22C 29/02

(22) Application date: 13.01.89

| | |
|--|--|
| (30) Priority: | (71) Applicant: TOSHIBA TUNGALOY |
| (43) Date of application publication: 20.07.90 | (72) Inventor: KONDO HIROKI TANIGUCHI YASURO UEKI MITSUO KOBORI KEIICHI |
| (84) Designated contracting states: | (74) Representative: |

**(54) SINTERED ALLOY
HAVING HIGH HARDNESS
AND HIGH TOUGHNESS****(57) Abstract:**

PURPOSE: To obtain a sintered alloy for cutting tool excellent in hardness and toughness by subjecting a powder mixture which is composed principally of WC and in which powder of hard material, such as the carbides, carbonitrides, of specific metals, and a powder of Co or Ni as binding metal for sintering are mixed in specific proportions to compacting and then to sintering.

CONSTITUTION: A powder mixture which consists of 3-10vol.% of pulverized powder of cubic compound with high hardness consisting of an least one kind among hard compounds, e.g. the carbides, carbonitrides, etc., of the groups IVa, Va, and VIa metal elements of the periodic table, such as Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, and W and mutual solid solutions thereof, 78-

89vol.% of WC powder, and 8-12vol.% of powder of Co or Ni as binding material at the time of forming sintered compact is thoroughly mixed and compacted in a metal mold. The resulting green compact is sintered in vacuum, by which the sintered alloy having $\geq 10.3 \text{ MN}\cdot\text{m}^{-3/2}$ fracture toughness value and ≥ 420 micro-Vickers hardness at 1000°C and suitable for cutting tool material can be manufactured.

COPYRIGHT: (C)1990,JPO&Japio

The Delphion Integrated View

Get Now: [More choices...](#)

Tools: Add to Work File: [Create new Wor](#)

View: [INPADOC](#) | Jump to: [Top](#) ☒ Go to: [Derwent...](#)

☒ [Em](#)

Title: **JP2185941A2: SINTERED ALLOY HAVING HIGH HARDNESS AND H TOUGHNESS**

Country: JP Japan

Kind: A

Inventor: KONDO HIROKI;
TANIGUCHI YASURO;
UEKI MITSUO;
KOBORI KEIICHI;

Assignee: TOSHIBA TUNGALOY CO LTD
[News, Profiles, Stocks and More about this company](#)

Published / Filed 1990-07-20 / 1989-01-13

Application Number: JP1989000006279

IPC Code: [C22C 29/02;](#)

Priority Number: 1989-01- [JP1989000896279](#)

Abstract:

PURPOSE: To obtain a sintered alloy for cutting tool excellent in hardness and toughness by subjecting a powder mixture which is composed principally of WC and in which powder of hard material, such as the carbides, carbonitrides, of specific metals; and a powder of Co or Ni as binding metal for sintering are mixed in specific proportions to compacting and then to sintering.

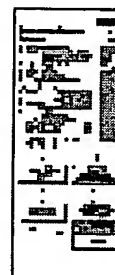
CONSTITUTION: A powder mixture which consists of 3-10vol.% of pulverized powder of cubic compound with high hardness consisting of an least one kind among hard compounds, e.g. the carbides, carbonitrides, etc., of the groups IVa, Va, and VIa metal elements of the periodic table, such as Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, and W and mutual solid solutions thereof, 78-89vol.% of WC powder, and 8-12vol.% of powder of Co or Ni as binding material at the time of forming sintered compact is thoroughly mixed and compacted in a metal mold. The resulting green compact is sintered in vacuum, by which the sintered alloy having $\geq 10.3 \text{ MN} \cdot \text{m}^{-3/2}$ fracture toughness value and ≥ 420 micro-Vickers hardness at 1000°C and suitable for cutting tool material can be manufactured.

COPYRIGHT: (C)1990,JPO&Japio

INPADOC Legal Status None Get Now: [Family Legal Status Report](#)

Family: [Show 2 known family members](#)

Other Abstract Info: DERABS C90-264937 DERC90-264937





[Nominate](#)

[this for the Gallery...](#)

© 1997-2003 Thomson Delphion [Research Subscriptions](#) | [Privacy Policy](#) | [Terms & Conditions](#) | [Site Map](#) | [Conta](#)